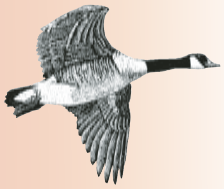
The Flyway

Fall 2011

Quarterly newsletter of Nisqually and Grays Harbor National Wildlife Refuges

Inside...



2012 Nisqually National Wildlife Refuge Calendars Now Available at the Nature Shop!

Restoration of the Nisqually Estuary: Tidal Forested Wetland

Riparian forested wetlands are unique ecosystems that provide habitat for many species of wildlife such as migratory song birds, juvenile salmon, and many other species. Tidally influenced forested wetlands or surge plains are especially rare in Puget Sound as they can only occur at locations where large rivers meet salt water. Most of these historic habitats existed in areas like Commencement Bay or the Lower Duwamish that are now heavily developed; many were cleared for farming or other human endeavors. What remains are particularly vulnerable to sea level rise as these habitats are often pinched between high tide and significant development. This type of habitat only occurs in the lowest reach of rivers where they meet salt water and are affected by the tides. Restoration monitoring studies in the Nisqually on both fish and birds show that this habitat type supports high numbers of wild juvenile Chinook salmon as they prepare to enter salt water, and is important for a wide diversity of songbirds, including yellow warblers.

Deliberately planted snags in the Refuge Riparian Restoration area. In coming years, this area will become a tidal forest and scrub-shrub wetland.

In the Nisqually River the tides affect water levels upstream to approximately Mounts Road at river mile 4 and the salt water influence is detectable to roughly I-5 on the highest tides. As high tides push upstream twice daily, the lighter freshwater floats over the heavier wedge of saltwater, progressively thinning as the river meets Puget Sound in the Nisqually Reach. Tidal forested wetlands can only occur in a narrow portion of this zone with minimal saltwater influence. The Nisqually Delta includes many acres of tidal forested wetland habitat between I-5 and the mouth of the river.

At the Refuge the Riparian Forest Overlook offers unique views of tidal forested wetland plant communities and the sloughs filling and draining as tides and rivers' flow change.

At the Refuge the Riparian Forest Overlook offers unique views of tidal forested

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Tidal Forested Wetland

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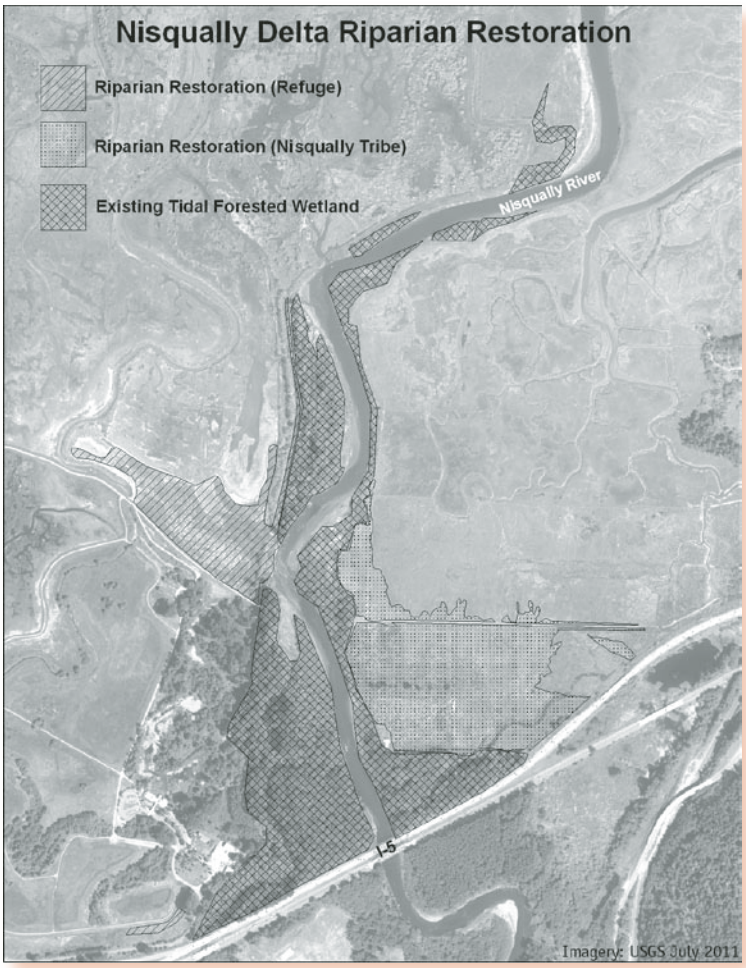
wetland plant communities and the sloughs filling and draining as tides and river's flow change.

During recent restoration activities at the Refuge approximately 25 acres of tidal forested wetland is in the process of being restored, as much of the tidal forest at Nisqually was cleared for farming in the late 1800's. The large bench just north of the new exterior dike between the River Overlook and Leschi Slough is intended to develop into a complex tidal forested and scrub-shrub wetland. A wide low swale just north of the Overlook connects the river to the new tidal flats within the estuary restoration area on higher tides, and may develop into a deeper distributary channel over time. Many of you may be wondering about the origin and purpose of the large



standing snags in this area. These were installed during construction in 2009 from logs salvaged from old dike footprint during the restoration project. They provide perches for raptors and cavities for birds and other wildlife while the small trees begin to grow.

Unlike the naturally restoring salt marsh, the riparian forest requires an intensive planting effort. In preparing for restoration, an inventory of existing surge plain plant species, review of historic documents, and knowledge of native species tolerant of low levels of salt helped to formulate a list of potential species to plant. The first winter after the return of the tides to the restoration area (2009/1010), 7 acres were planted as a trial to determine which areas may be suitable for woody plantings. Over 500 school children helped to plant willow stakes along the edges of the swale running west away from the river and a crew planted the area north of the swale and the old levee footprint. Last winter a planting crew installed 18,000 woody plants and 8000 herbaceous plants over the remainder of the area. Students from The Evergreen State College helped to plant an additional 5,000 sedges and bulrushes. Native woody plants installed include:

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Save trees, think green

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New Volunteers Join the Refuge

In late July, nine people completed a 10 hour training course for new volunteers and became the newest members of the Refuge's Volunteer Program. They join the already 100 volunteers who contribute an average of 15,000 hours of volunteer time annually to Refuge projects. They will be working at the Visitor Center, Education Program, and Special Events. Next time you're at the Refuge, please welcome the Class of 2011: Liz Atayde, Rob Barlow, Carole Dickerson, Deborah Feinstein, Phyllis Freitas, Miko Nanto, Nyla Noah, Shelly Oshie, Sandy Pecor, and Tom Todd.

Salmon Fishing Season on the Nisqually River

It is the Fall season, and visitors to the Refuge are once again wondering about boats and other signs of fishing activity on the Nisqually River. At the Refuge Visitor Center, we receive many questions about this. The following are points of interest:

- The Boldt Decision (federal district court, Judge George Boldt, 1974) guarantees that tribes are entitled to the opportunity to catch half of the harvestable salmon and steelhead returning to the traditional fishing grounds as established by their treaties with the Federal government.
- Today salmon fishing is co-managed by the state of Washington and the tribes. Tribes are allowed to manage their share of the fishing on waters where they have usual and accustomed rights to fish. This includes the Nisqually Indian Tribe as signatory to the 1854 Medicine Creek Treaty.
- With the advent of co-management of the salmon resource, each year the state and the tribes together, under the guidance of the Pacific Salmon Commission, craft sport and commercial salmon fishing seasons and quotas, with 50% of the harvestable fish allocated to tribes and 50% to sport and non-treaty commercial fisheries.
- Nets are often the tribal fishing method of choice as it often reflects traditional methods and is the most efficient way to make a living fishing. Sport fishers regulated by the state are not permitted to use nets. In order to ensure that a sustainable population of salmon is permitted to spawn, each year the co-managers determine how many fish may be caught on a specific river or area. This year during September tribal fishermen may use gill nets Sunday through Tuesdays. From October to mid-January they can fish three days a week (noon Sunday-noon Wed) using gill nets.
- The amount of fish caught by tribal fishers and sports fishers is monitored. Each day fish are counted where tribal members take their boats out of the water. If too many fish are being caught during a period of the season, fishing will be immediately limited for conservation purposes.
- The Tribe is conducting a pilot project of working with tangle nets that are able to limit bi-catch (fish and mammals caught accidentally) and facilitate the release of wild fish.
- The Tribe operates two hatcheries in the Nisqually River. The vast majority of fish caught by tribal fishermen are fish from these hatcheries. Sport fishers are required to keep only those fish that are from hatcheries; wild salmon must be released to swim upstream. Anglers can tell a hatchery fish by the removed adipose fin. This helps to limit the impact of fishing on wild salmon populations.

Welcome Davy Clark, AmeriCorps Volunteer

All the staff are excited to formally welcome AmeriCorps Volunteer Davy Clark, who will be filling the Education Coordinator Position for the next 10 1/2 months at Nisqually National Wildlife Refuge. Davy is already a familiar face, working with school groups as an Environmental Education Intern since last April and functioning as the Interim Education Coordinator since Margaret Lambert's departure in July. With so much experience at the refuge, he is a natural fit for the full time position.

Davy has an affinity for all things related to the outdoors. In his youth, he worked as a camp counselor during high school summers. Today he enjoys kayaking, biking, fly fishing, and backpacking (he claims he "really enjoys walking uphill"). Guided by his passion for the outdoors and by a dedication to helping people reexamine their relationship with the landscape, he earned a Bachelor of Arts with an emphasis in Environmental Education from The Evergreen State College. Welcome to the Refuge, Davy!

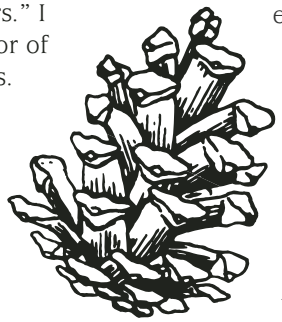
Summer Teacher Institute a Great Success

From June 27th through June 29th, Nisqually National Wildlife Refuge hosted the 2011 Summer Teacher Institute, a teacher training program in which 38 teachers (3rd grade through high school) learned about Earth Partnership for Schools Ecological Restoration of Schoolyards and joined in hands-on activities to learn about the Ten Restoration Education Steps: Study, Investigate, Analyze, Connect, Plan, Prepare, Plant, Manage, Research and Learn. The training is part of a nationwide project known as RESTORE: Restoration, Education, Science Training, and Outreach for Regional Educators. The training was offered through a partnership of three organizations: The Chehalis Basin Education Consortium, South Sound GREEN (Global Rivers Environmental Education Network), and the Nisqually River Education Project. The following is a brief interview with Kathy Jacobson, Chehalis Basin Education Consortium Coordinator.

Summer Teacher Institute participants install a new Learning Landscape at the Refuge's Environmental Education Center.

Q: Can you tell me a bit about the Chehalis Basin Education Consortium and about how you got involved?

A: The Chehalis Basin Education Consortium (CBEC) is a partnership comprised of Educational Service District 113, school districts, natural resource agencies, local colleges, the Chehalis River Council and other nonprofit agencies within the Chehalis watershed. The primary purpose of this project is "to support stewardship of the Chehalis watershed through environmental education by linking Washington's learning goals and standards to environmental issues that are part of this watershed. In addition, the program aims to provide related professional development and enrichment opportunities for teachers." I have been the coordinator of this program for 10 years. My background is in natural history interpretation and environmental education specializing in a variety of watershed issues: household hazardous waste, water quality, storm water, and wetlands.



Q: How did South Sound GREEN, the Nisqually River Education Project, and your own organization work together to organize, plan, and execute this training? What role did each organization play?

A: South Sound GREEN (SSG) and the Nisqually River Education Project (NREP) have been in existence for more than 20 years, and have annually conducted a Summer Teacher Institute on a variety of themes. This is the second year that CBEC has partnered with these "sister organizations" with support from a grant from the United States Fish and Wildlife Service. We actually started planning the training back last September with our regional team that attended in July 2010 the ten-day RESTORE: Restoration, Education, Science Training, and Outreach training for Regional Educators. Taylor Goforth, USFWS, Jan Strong, Chehalis River Basin Land Trust, Ryan Misley, Pierce County Environmental Services and local teachers were part of the team. Anne Mills, SSG and Sheila Wilson, NREP, Sheila McCartan, USFWS and I pooled our time and resources to do the final planning, implementation and evaluation of the training. We also received funding from Earth Partnerships to conduct the training.

Q: This training was part of a nationwide project known as RESTORE: Restoration, Education, Science Training, and Outreach for Regional Educators. Can you tell me a bit more about this project?

A: The Earth Partnership Program started in 1991 as an outgrowth of the University of Wisconsin-

Madison Arboretum's focus on ecological restoration as a way of establishing a positive relationship between people and the land. They assist teachers in establishing restoration projects on school sites and provide the tools for building a curriculum that incorporates restoration into almost any subject area. Their program includes a two-week institute in the summer and ongoing support from UW-Madison Arboretum staff to help schools with restoration planning and curriculum development. They recently received a large grant from the EPA to train regional teams of teachers in the RESTORE project. The teaching potential of ecological restoration can involve any ecosystem indigenous to a region. The 1260-acre UW-Madison Arboretum is internationally recognized as a leader in the field of ecological restoration. The biological communities collection at the Arboretum is living, dramatic proof of the possibilities inherent in restoration. The motivation in Earth Partnership is to create opportunities for experiences with nature on school sites. By having students transform school landscapes into natural habitats, their studies of science, math and related subjects can show them why learning is important and that they can make a difference.

Teachers learning about Earth Partnerships for Schools Ecological Restoration of Schoolyards.

Q: During the Summer Teacher Institute the teachers helped to plant a "Learning Landscape" at the entrance to the Refuge's Education Building; it features native prairie and forest plants which can be used as an educational tool. Can you talk a bit about the role that native trees and shrubs play in protecting water quality, water quantity and salmon habitat?

A: Planting native shrubs and trees is excellent as native trees and shrubs provide for erosion control, recharge of water, habitat for wildlife, and can also reduce non-point source pollution, and provide much needed shade. This is especially true when native trees and shrubs are planted along wetlands, streams, creeks and rivers.

Q: Planting native plant gardens and rain gardens in an educational context seems like an ideal way to give kids hands on experience and address a growing nature deficit disorder in children. Is this a goal in and of itself, or do you, through this project, hope to expand awareness of rain gardens and native plants throughout communities?

A: Yes, by engaging children in the planting of native trees and plants we are getting kids outside, and helping children see how "fun" and exciting nature is. We hope this helps to address the problem of kids being disconnected from nature, so well-articulated by Richard Louv in his book, "Last Child in the Woods, The Nature Deficit Syndrome." With our three watershed education programs, we also engage students in numerous riparian restoration projects, including the restoration of salt marsh habitat at the refuge in 2009. These activities help to fully engage students in their learning; this enhances learning across the curriculum, as students see the real world connections to their learning. This type of hands-on involvement in their local watersheds also strengthens school, family and community relationships and also the relationships that students have to the land.

Q: How do you think it went?

A: The response from teachers was very positive. Please check out our website for more information on our program: http://tnl.esd113.org/cbec

Tidal Forested Wetlands

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cottonwood, Oregon ash, red alder, willow (3 species), Sitka spruce, salmonberry, black twinberry, clustered wild rose, western crabapple, red elderberry, ninebark, and snowberry. Herbaceous native plants include slough sedge, water parsley, Lyngbei's sedge, three-square bulrush, and small-fruited bulrush in various areas. Many other wetland plants are colonizing this area from both the seed bank in the soil and from seeds transported by the river and tides.

Tidal slough in the existing Tidal Forested Wetland Area.

Over the next many years this area is expected to grow into a diverse forest and scrub-shrub wetland habitat that will provide habitat for nesting and migrating song birds as well as better connectivity between the restoration area and the river for juvenile salmonids. Areas closest to the river will support a diverse plant community of trees and shrubs; further to the west (away from the river) one can expect only those shrubs with the best adapted genetics to persist as the salty influence of Puget Sound increases.

All of the smaller trees and shrubs that were cleared during the removal of the Brown Farm Dike during the estuary restoration were chipped and used as mulch in the planting areas to help nurture the newly planted trees and suppress weeds. If you look out from the new dike you can see many small trees and shrubs poking up through the herbaceous vegetation. In a few years this area will look more like the adjoining reforestation project visible from I-5 on the east side of the river implemented by the Nisqually Tribe, and eventually mature into a forested wetland system similar to others along the lower river with all its associated complexity, habitat niches, and tidal sloughs. In combination with the existing mature riparian tidal forests on both sides of the river, this portion of the restoration project will connect with the Tribe's 55-acre reforestation creating substantially more of this important estuary habitat in the Nisqually watershed.

Summer Lecture Series a Hit

Over 700 people attend the lectures during the 24th Annual Summer Lecture Series. Thanks to Friends of Nisqually NWR for their financial support of the lectures and to the speakers who so graciously gave of their time and expertise so that we could all learn. The lectures would not be possible without the help of a dedicated group of Refuge volunteers including Art Pavey, Jan Kramer, Nancy Wells, Jane Shiner, Clyde Shiner, Clarice McCartan, and Cheri Greenwood. Thank you all for your help!

Refuge volunteer Donna Snow hosts author and professor Jennifer Hahn on August 10th.

New and Renewing Friends Membership

Summer 2011

Senior/Student ($15)

Sturges, Phyllis
Schmidt, Elaine
Johnson, Sue
Kelly, Evelyn L.
De Buse, Judy and Ray
De Leeuw, Care
Greer, Eden J
Barry, Jane
Bostwick, Gary
Michael, Carolyn
Kerlin, Diane
Nuse, Connie
Tobiason, Fred and Dorothy
Alexanian, Dr. Joseph and Esther

Individual ($25)

Mastronarde, Carol L.
Daniels, Joyce
Lewis, Karen
Danielski, Joyce
Bauer, Linda
Bennett, Jeri Marie
Petersen, Karen

Family ($50)

McHugh, Elizabeth
McCartan, Sheila and Tom Schooley

Supporting ($100)

Ahlschwede, Susan and Rob
Wilkinson, Charles and Melanie Ito
Ryan, Doug and Lillian

Friends of Nisqually NWR is a 501(c)(3) non-profit organization established in 1998 to promote conservation of the natural and cultural resources and fund education and outreach programs at **Nisqually National Wildlife Refuge Complex.**

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❏ $250 Business Sponsor
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❏ $1000 Sustaining Business
❏ $2500 Corporate Patron
❏ $5000 + Corporate Benefactor

Please make checks payable to: Friends of Nisqually NWRC, 100 Brown Farm Rd, Olympia, WA 98516

Your tax deductible contribution will help support education programs and preserve the unique habitats, fish, and wildlife of the Nisqually Delta and the Grays Harbor Tideflats.

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Attention Teachers!

Fall is here and it's a great time to bring students to the Refuge! Ducks and geese by the tens of thousands spend the Fall and Winter on the Nisqually Delta and Fall colors lend a different flavor to the landscape. Often the weather is perfect for an outdoor adventure. The Refuge provides an array of services to school groups including indoor activities in the Education Center and outdoor activities along the Refuge trails. For more information on bringing students on a field trip to the Refuge go to ***http://www.fws.gov/nisqually/education.html*** or call the Refuge at (360) 753-9467. We look forward to hearing from you!